

WE CLAIM:

1. A method for an IP wireless cell and its base station in an IP wireless network locally to predict mobile host network resource demands without communicating with other IP cells and their wireless base stations comprising using an ARIMA model.

2. The method of claim 1 wherein said ARIMA model is an ARIMA (p,l,q) model and further comprising the step of

performing an identification and estimation phase wherein the autoregressive variable “p” and the moving average variable “q” are identified and the actual autoregressive and moving average parameters for the ARIMA (p,l,q) model are estimated.

3. The method in accordance with claim 2 further comprising applying the ARIMA (p,l,q) model to predict the future handoff host resource demand.

4. The method in accordance with claim 3 wherein said performing step is performed at a wireless base station based upon local observations of handoff demand.

5. The method in accordance with claim 4 wherein said performing step includes the step of monitoring the amount of network resources requested by handoff hosts during an initial period of time to create an initial data set of handoff host IP network resource demand R(t).

6. The method in accordance with claim 5 further comprising the step of using the initial data set of handoff host network resource demand  $R(t)$  to determine the change in handoff network resource demand  $\Delta R$

5 7. The method in accordance with claim 6 further comprising predicting the future handoff host network resource demand based on the initial host network resource demand  $R(t)$  and the predicted change in handoff host network resource demand  $\Delta R$ .

8. The method in accordance with claim 1 comprising using both an ARIMA model and an ARMA model.